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FINNEGAN, HENDERSON, FARABOW, GARRETT &
DUNNER LLP
1300 I STREET, NW
WASHINGTON, DC 20006

EXAMINER

LY, CHEYNE D

13

ART UNIT PAPER NUMBER

1631

DATE MAILED: 03/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/558,232

Applicant(s)

MANYAK ET AL.

Examiner

Cheyne D Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on October 4, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-138 is/are pending in the application.
- 4a) Of the above claim(s) 4-9, 11-13, 24-26, 29-32, 44, 45, 58, 65, 66, 69 and 111-119 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10, 14-23, 27, 28, 33-43, 46-57, 59-64, 67, 68, 70-94, 96-106, 108-110, 120-125, 127-138 is/are rejected.
- 7) ☒ Claim(s) 95, 107 and 126 is/are objected to.
- 8) ☒ Claim(s) 1-138 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on February 13, 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Continue

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s). <u>10</u> |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4 and 5</u> | 6) <input type="checkbox"/> Other: |

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PTO-326 (Rev. 04-01)

Office Action Summary

Part of Paper No. 13

DETAILED ACTION

1. Applicant's election with traversal of Group I, claims 1-23, 27-43, and 45-138 (a system comprising a memory of data about compounds and targets with interaction information, known compounds with known biological activity, have failed in pre-clinical or human clinical test, and molecular targets include receptors), Paper No. 11, filed February 13, 2003, is acknowledged.
2. The traversal is on the ground(s) that Applicants disagree with the species election requirement of a system comprising a memory of data about compounds and targets with interaction information or a system comprising a memory of data about compounds and targets without interaction information. Applicants argue, "despite the fact some of the claims do not include some type of data storage with interaction information, there is nothing in any of those claims that precludes such data storage." Applicants' argument have has been fully considered and found to be unpersuasive. It is noted that during patent examination, the pending claims are given the broadest reasonable interpretation consistent with the specification. In light of such practice, claims 45 and 58 are generic to the species listed in the written restriction requirement, Paper No. 9, mailed January 13, 2003, Page 3.
3. The restriction requirement is still deemed proper and is therefore made FINAL.
4. Claims 4-9, 11-13, 24-26, 29-32, 44, 45, 58, 65, 66, 69 and 111-119 are withdrawn because they are directed to species other than a species that is a system comprising a memory of data about compounds and targets with interaction information, known compounds with known biological activity, have failed in pre-clinical or human clinical test, and molecular targets include receptors.

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5. Claims 1-3, 10, 14-23, 27, 28, 33-43, 46-57, 59-64, 67, 68, 70-110, and 120-138 are examined on the merits.

OBJECTION

6. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code (Page 15, Items (n) and (o)). Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code, or inactivate the hyperlink. See MPEP § 608.01.

7. Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The abstract of the instant application exceeds the 150-word limitation. Applicants are advised to replace the abstract of this instant application with one that meets the requirements stated above. The abstract must be submitted on its own separate sheet of paper.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-3, 14-23, 27, 28, 33-43, 54-56, 59-64, 71-75, 78, 80, 89-91, 93, 94, 97-101, 103-106, 120, 121, 125, and 127-132 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by Goto et al. (1998).

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10. Goto et al. (1998) discloses KEGG as a computerized database of mechanisms of gene functions and cellular functions in terms of the information pathways that consist of interacting genes or molecules (Page 591, Column 1, Lines 23-26).
11. Goto et al. teaches "new activities of computational functional genomics that include the identification of biological functions of unknown gene products,...comparative analysis of genes and genomes in different species, and analysis and simulation of gene expressions in different cells or in different developmental stages. In order to facilitate such post-genomic sequencing analyses, it has become a high priority to construct a new breed of database that defines functional aspects of genes, cells and organisms" (Page 591, Column 2, Lines 12-22). The disclosure by Goto et al. above anticipates the limitations of claims 78 and 128-131.
12. "A schematic diagram showing LIGAND as an interface of KEGG (Kyoto Encyclopedia of Genes and Genomes) and DBGET/LinkDB systems as well as an interface of biological and chemical databases" (Figure 3, page 596). "As illustrated in Figure 3, Ligand is a major component of the KEGG and DBGET/LinkDB systems. It makes connections between the factual data for individual molecules, i.e. genes and gene products, and the biological relationships among them, i.e. molecular interactions and molecular pathways" (Page 595, Column 2, Lines 1-2 and Page 596, Column 1, Lines 1-4). The KEGG project includes databases such as PATHWAY, COMPOUND, GENES and interaction databases such as ENZYME for enzymatic reactions and BRITE for molecular interactions in general. Specific to the BRITE database, molecular interactions may include those determined from the yeast two-hybrid system for protein-protein interaction (Page 597, Lines 32-46). The disclosure by Goto et

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al. above anticipates the limitations of claims 1, 3, 27, 33, 41, 63, 64, 103, 104, 125, 127 and 132.

13. The ENZYME database includes such enzymes as transferases, for example (Page 592, Column 2, Lines 15-16). "The DBGET/LinkDB system is especially suited to search information on related entries in other databases" (Page 594, Column 1, Lines 8-9). "LIGAND now consists of two sections: the expanded ENZYME section and the new COMPOUND section... The COMPOUND section is a collection of metabolic compounds, including substrates, products, inhibitors, cofactors and effectors, and other chemical compounds that play important functional roles in living cells" (Page 592, Column 1, Lines 49-53), as in claim 2 of this instant application.

14. "Each compound is given an accession number in the ENTRY field, which is followed by the compound name and its synonyms in the NAME field, and the molecular formula in the FORMULA field" (Page 593, Column 2, Lines 10-13). Tables 1 and 2 disclose the number of links from ENZYME to other databases where users can view information for enzymes whose roles in the metabolic pathways are known and whose sequences and three-dimensional structures have been determined (Page 594, Column 2, Lines 13-17), as in claims 97-99 and 120 of this instant application. The number of entries such as inhibitors or effectors and links in COMPOUND are disclosed in Table 4 (Page 595). The disclosure by Goto et al. above anticipates the limitations of claims 14-23, 28, 34-40, 42, 43, 54-56, 59-62, 67, 68 and 106.

15. "The LIGAND database thus provides fundamental data on both biological and chemical aspects of life" (Page 592, Column 2, Lines 4-5). "The DISEASE field describes human genetic disorders caused by a lack of or mutation of the enzyme, which is linked to the OMIM database.

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The MOTIF field describes the protein sequence motifs that are linked to PROSITE...and the STRUCTURE field contains the code names of the protein three-dimensional structures in the Protein Data Bank” (Page 593, Column 1, Lines 11-19). “The chemical structure is entered in our database in the MDL MOL file format, which can also be downloaded in DBGET/LinkDB to launch a helper application, such as ISIS/Draw, to view and manipulate the structure, as in claims 93 and 94 of this instant application. Because this file contains the information on atoms and bond of each compound, it may be used to reconstruct a three-dimensional structure of the compound. The last portion of the COMPOUND entry contains link information to other databases...The DBLINKS field includes the CAS (Chemical Abstract Services) registry number. The COMPOUND section is constructed manually, except for the link information to ENZYME and KEGG/PATHWAY, by consulting with various sources, such as the *Merck Index* (Budavari, 1996), and dictionaries of biochemistry and organic chemistry” (Page 593, Column 2, lines 28-32).

16. The inclusion of a document containing the description of the *Merck Index* is provided to support and expand on prior art cited from Goto et al. The *Merck Index* has the following type of information available: biological products, environmentally significant compounds, and natural products. “The MERCK INDEX ONLINE is made available through major online database vendors” (Page V, Lines 13-15 and 31-32). Specifically, the drug information disclosed in the Merck Index include the following: compound name, compound type, references to pharmacological or biological activity, clinical trials, toxicity studies, structure, and physical data which includes solubilities determined at room temperature, therapeutic category, metabolism in humans (Page ix and Page x, Lines 17-19, Structure section, Physical Data section, and

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Literature References section). The disclosure by Goto et al. above anticipates the limitations of claims 53, 89-91, 100 and 101.

17. "LIGAND database provides the enzyme classification according to EC number...For instance, the sequence similarity can be used to define a hierarchical classification of families and superfamilies of functionally related proteins...The sequence and structural motifs that have been extracted from groups of enzymes with similar functions can also be considered as a functional hierarchy" (Page 596, Lines 24-26 and 30-33), as in claims 105 and 121 of this instant application.

18. Further, LinkDB provide access to ATPase EC 3.6.1.3, which is further linked to literature source via the ENZYME nomenclature database (ExPASy) that provide disclosure for ATPase in regard to binding and inhibition assays. A document by Liu et al. (1997) is provided not as prior art but only as disclosure to the data that is accessible via LinkDB. From LinkDB, EC 3.6.1.3 provides a link to reference literature via ExPASy specific to ATPase. For example, Liu et al. discloses "the assay uses Mg^{2+} ions to permeabilize membrane vesicles or proteoliposomes, thus allowing access of ATP to both sides of the bilayer. HisQMP₂ displays a low level of intrinsic ATPase activity in the absence of HisJ; unliganded HisJ stimulates the activity and liganded HisJ stimulates to an even higher level. All three levels of activity display positive cooperativity for ATP with a Hill coefficient of 2 and a $K_{0.5}$ value of 0.6 mM. The activity has been characterized with respect to pH, salt, phospholipids, substrate, and inhibitor specificity. Free histidine has no effect" (Abstract). "Vanadate, a potent inhibitor of P-type ATPases and histidine transport, inhibits the activity of HisQMP₂, giving 50% inhibition at 6.5 μ M. Bafilomycin A₁ (100 μ M), ouabain (up to 3 mM), and NaN₃ (10 mM) do not inhibit" (Page

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21887, column 2, lines 23-28). The disclosure by Goto et al. above anticipates the limitations of claims 71-75 and 80.

19. Clearly, Goto et al. (1998) anticipates every limitation of claims 1-3, 14-23, 27, 28, 33-43, 54-56, 59-64, 71-75, 78, 80, 89-91, 93, 94, 97-101, 103-106, 120, 121, 125, and 127-132.

20. Claims 1, 10, 46-53, 57, 59, 67, 68, 79, 81-86, 92, 108, 109, 122-124 and 133-138 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by Ogata et al. (1999).

21. Ogata et al. discloses KEGG is tightly integrated with the LIGAND chemical database for enzyme reactions as well as with most of the major molecular biology databases by the DBGET/LinkDB system" (Page 29, Column 2, Lines 1-6). "First, KEGG aims at computerizing the current knowledge of genetics, biochemistry, and molecular and cellular biology in terms of the pathway of interacting molecules or genes...Second, KEGG maintains the gene catalogs for all organisms with completely sequenced genomes and selected organisms with partial genomes..." Third, KEGG maintains the catalog of chemical elements, compounds, and other substances in living cells as the LIGAND database" (Page 29, Column 2, Lines 23-29, 33-36, 42-43; Page 30, Column 1, Line 1), as in claims 47-49, 52 and 53 of this instant application. "The user may enter the KEGG system top-down starting from the pathway information or bottom-up starting from the genomic information" (Page 30, Column 1, Lines 16-18) as in claim 50 and 51 of this instant application. "The co-linearity of genes between two genomes is quite useful for identification of clusters of orthologous genes. KEGG provides the comparative genome map for identification of such clusters and for functional annotation of newly sequenced genomes (Page 33, Column 1, Lines 33 and Figure 3). Table 3 shows the list of currently available tools

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such as gene cluster search and sequence similarity search for search and analysis of KEGG pathway maps and genome maps (Page 33, Column 2, Lines 54-55), as in claims 122-124 of this instant application. The KEGG biochemical pathways include Ligand-Receptor Interaction (Page 30, Table 2, Cell Processes) as in claims 10, 67, 68, 108 and 109 in this instant application.

22. Ogata et al. further discloses "a typical ABC transporter consists of a substrate-binding protein, two membrane proteins, and two-ATP-binding proteins. "For example the KEGG reference pathways can be used to uncover molecular interactions and pathways that underlie gene expression profiles obtained by microarray experiments" (Page 30, Column 1, Lines 9-11). "A binary relation can be a substrate-product relation in metabolic pathways, a gene-gene interaction observed in gene expression profiles, or a protein-protein interaction observed by yeast two-hybrid system experiments" (Page 34, Column 1, Lines 34-37), as in claims 134-138 of this instant application. "Thus, it is easy to see how the information of gene expression profiles can be used as still another constraint against the KEGG reference pathway maps. In fact, KEGG provides a tool to color the pathway maps in order to visualize, for example, the microarray patterns of gene expression profiles" (Page 33, Column 2, Lines 48-53). It is inherent in such techniques as the ligand-receptor binding assays, yeast two-hybrid system and microarray expression assays that interactions are determined by some potency value or compared to some specified threshold value, as in claims 79 and 81-86 of this instant application. Further, the process of generating gene clusters or gene expression profiles is a type of recursive partitioning, as in claim 92 of this instant application.

23. KEGG can be accessed at the following address: <http://www.genome.ad.jp/kegg/>. The KEGG mirror server package may be installed. The package, which also includes a minimal set

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of DBGET/LinkDB, can be obtained from the KEGG anonymous FTP site:

ftp://kegg.genome.ad.jp/. The mirror package runs on a Solaris or IRIX machine. The individual databases PATHWAY, GENES, and LIGAND can also be obtained from this FTP site. The CD version of KEGG was once distributed and a copy still exists at the FTP site. Some of the search tools are also available at the KEGG mail server (Page 34, Column 2, Lines 9-26). The disclosure by Ogata et al. above anticipates the limitations of claims 1, 46, 57, 59 and 133.

24. Clearly, Ogata et al. (1999) anticipates every limitation claims 1, 10, 46-53, 57, 59, 67, 68, 79, 81-86, 92, 108, 109, 122-124 and 133-138.

Claim Rejections - 35 USC § 112, First Paragraph

25. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

26. Claims 33, 46-53, 57, 67, 68, 70, 76-78, 82-89, 96, 102, 106, 108-110, 120, 124 and 129-131 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. THIS IS A NEW MATTER REJECTION.

27. Specific to claim 33, Lines 2, 4, 6, 7, 8, 9, and 10, the introduction of "datastore" is considered to be new matter.

28. Specific to claims 46-53, Line 1, the introduction of "memory device" is considered to be new matter.

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29. Specific to claim 57, Line 1, the introduction of "computer readable medium" is considered to be new matter.
30. Specific to claims 67 and 68, Categories (b) and (c), the introduction of "ion channels" and "transporters or uptake sites" is considered to be new matter.
31. Specific to claim 70, Line 2, the introduction of "statistically complete results of test" is considered to be new matter. It is acknowledge that Applicant discloses "complete sets of results from the screening process" (Page 31, Line 4).
32. Specific to claim 76, Lines 3-4, the introduction of "measure functional activation, functional enhancement, functional inhibition, or lack of functional effect" is considered to be new matter.
33. Specific to claim 77, Line 2-3, the introduction of "measure adenylyl cyclase activity, inositol triphosphate, or neurotransmitter transport" is considered to be new matter.
34. Specific to claim 78, Lines 2-3, the introduction of "reporter gene assays or cellular functional assays" is considered to be new matter.
35. Specific to claim 82, Lines 3-4, the introduction of "in terms of whether or not the interaction values exceed a specified threshold" is considered to be new matter.
36. Specific to claim 83, Lines 3-4, the introduction of "in terms of whether or not the interaction values fall below a specified threshold" is considered to be new matter.
37. Specific to claim 84, Lines 3-4, the introduction of "in terms of whether or not the interaction values fall between specified upper or lower thresholds " is considered to be new matter.

38. Specific to claim 85, Lines 3-5, the introduction of "terms of profiles of numerical values or meeting specified threshold criteria for specific compounds from the first database with respect to panels of molecular targets in the second database" is considered to be new matter.
39. Specific to claim 86, Lines 3-6, the introduction of "terms of profiles of numerical values or meeting specified threshold criteria for specific compounds from the first database with respect to panels of molecular targets in the second database and in formats that allow comparisons to be made" is considered to be new matter.
40. Specific to claim 87, Lines 2-3, the introduction of "LOPAC (List Of Pharmacologically Active Compounds, Sigma/RBI)" is considered to be new matter. It is acknowledged that Applicant discloses the catalog of Research Biochemicals Inc. (RBI, a unit of Sigma Aldrich Corp. (Page 18, Lines 3-4). It is noted that the scope of the claimed subject matter is different from the disclosed subject matter as originally filed.
41. Specific to claim 88, Lines 2-3, the introduction of "U.S. Pharmacopeia Drug Information for the Health Care Professional (USP DI) publication" is considered to be new matter. It is acknowledged that Applicant discloses "United States Pharmacopeial Convention Inc.'s USP DI Series, including Volume I. Drug Information for the Health Care Professionals (Page 18, Lines 13-15).
42. Specific to claim 89, the introduction of "logP" is considered to be new matter.
43. Specific to claim 96, Line 2, the introduction of "2-D topological descriptors" is considered to be new matter.
44. Specific to claim 102, Lines 5-10 the introduction of "teratotoxicity, mutagenicity, hepatotoxicity, renal toxicity, neurotoxicity, and cardiotoxicity" is considered to be new matter.

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45. Specific to claim 106, Lines 3-4, the introduction of "using standardized terms or selectable terms from a prepared drop-down menu of possible terms" is considered to be new matter.
46. Specific to claim 108, Lines 3-8, the introduction of the "types and subtypes: serotonin..., and GABA-B" is considered to be new matter.
47. Specific to claim 109, Line 2, the introduction of "not G-protein coupled" is considered to be new matter.
48. Specific to claim 110, Lines 2-3, the introduction of "intracellular receptors, including estrogen..., and androgen" is considered to be new matter.
49. Specific to claim 120, Line 8, the introduction of "differential expression" is considered to be new matter.
50. Specific to claim 124, Line 2-3, the introduction of "phylogenetic trees" is considered to be new matter.
51. Specific to claim 129, Lines 3, the introduction of "target RNA expression across different cell types" is considered to be new matter.
52. Specific to claim 130, Line 2, the introduction of "differential expression" is considered to be new matter.
53. Specific to claim 131, Lines 2-3, the introduction of "differential expression based on different test conditions" is considered to be new matter.

Claim Rejections - 35 USC § 112, Second Paragraph

54. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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55. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

56. Claims 17, 60, 63, 90, 92, 105 and 106 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

57. Specific to claim 17, the phrase "failed drug database" is vague and indefinite. It is unclear whether a drug failed because it failed during development, clinical trials, FDA evaluations or all of the above. Applicants can resolve this issue by particularly pointing out the criteria used to determine that a specific drug has failed. Clarification of the metes and bounds of the instant claim is required.

58. Specific to claims 60 and 63, Lines 3-4, the phrase "substantially all" is vague and indefinite. What criteria is the Applicant using to consider that a database has "substantially all" compounds? Applicants can resolve this issue by particularly pointing out the criteria used to determine a database has "substantially all" compounds. Clarification of the metes and bounds of the instant claims is required.

59. Specific to claims 90, 92 and 105 Line 3, and 121, Line 2, the phrase "amenable to" is vague and indefinite. What criteria is the Applicant using to determine that a specific format is amenable to computer-based searching? Applicants can resolve this issue by particularly pointing out the criteria used to determine that a specific format is amenable to computer-based searching. Clarification of the metes and bounds of the instant claims is required.

60. Specific to claim 106, Line 3, the phrase "standardized terms or selectable terms" is vague and indefinite. What criteria is the Applicant using to determine that a term is

standardized or selectable? Applicants can resolve this issue by particularly pointing out the criteria used to determine that a term is standardized or selectable. Clarification of the metes and bounds of the instant claim is required.

OBJECTED CLAIMS

61. Claims 95, 107 and 126 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

CONCLUSION

62. NO CLAIM IS ALLOWED.

63. Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (see 37 CFR § 1.6(d)). The CM1 Fax Center number is either (703) 308-4242 or (703) 305-3014.

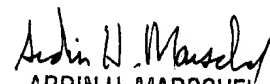
64. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (703) 308-3880. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

65. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on (703) 308-4028.

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66. Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instruments Examiner, Tina Plunkett, whose telephone number is (703) 305-3524 or to the Technical Center receptionist whose telephone number is (703) 308-0196.

C. Dune Ly
3/4/03


ARDIN H. MARSCHEL
PRIMARY EXAMINER